УДК 37.016:811.111

ENGLISH AS A TOOL FOR WORKING WITH DATABASES OF FOREIGN SCIENTIFIC PUBLICATIONS ON METALLURGY AND MINING

Zhizneuskaya E. S., student
Belarusian National Technical University
Minsk, Republic of Belarus
Scientific supervisor: lecturer Bondarchuk D. I.

Abstract. The paper analyzes the role of English as a key tool for accessing international databases of scientific publications on metallurgy and mining. Specialized resources OneMine and Compendex, professional terminology and effective strategies for searching information are considered.

In today's scientific and industrial landscape, the English language has established itself as the dominant and integral means of international communication. For specialists in metallurgy and mining, English is becoming not just an advantage, but a necessity. This allows for direct access to cutting-edge research, technology, and global databases that publish materials primarily in English. This research paper analyzes exactly how English serves as a practical tool for working with these critically important resources.

To carry out a full-fledged analysis in metallurgy and mining, it is necessary to confidently navigate through specialized bibliographic databases. One of the key resources is the OneMine digital archive, which houses collections of scientific papers from esteemed and trusted organizations such as The Society of Mining Engineers (SME) and The Minerals, Metals & Materials Society (TMS). Another important resource is Compendex (Ei Village 2), which is the largest interdisciplinary engineering database indexing thousands of journals since 1884. To search for materials related to 1884. The OnePetro platform is actively used to search for materials related to rock mechanics and drilling. The multidisciplinary Web of Science and Scopus databases provide powerful tools for tracking citations and analyzing scientific metrics, which helps assess the significance of publications [1; 2].

Working with these platforms requires fluency not only in general English, but also in specialized industry vocabulary. Without an accurate understanding of the terms, the formation of search queries becomes impossible. For example, to accurately search in mining, it is necessary to distinguish between the concepts of "open-pit mining" and "underground mining", as well as to know specialized methods such as "block caving" and "room and pillar mining".). Knowledge of terms describing processes, for example, "agitation" in hydrometallurgy, allows you to purposefully find articles on specific technological aspects.

Overcoming the language barrier and developing literary skills is a consistent process. The first step is an active and systematic study of industry vocabulary. For this purpose, it is useful to use specialized glossaries and dictionaries available through university library guides. For example, the Penn State University Mining Resource Guide offers a structured list of key terms and databases to get started.

The next stage is the use of language resources designed specifically for academic and professional purposes. There are specialized courses such as "Effective English Communication in Mining" from the Australian Institute of Mining and Metallurgy, which helps professionals develop the skills necessary to understand technical documentation and write reports.

Regular practice of reading popular science and review articles in the field of STEM in English is of great benefit. This allows you to get used to the style of presentation and expands the vocabulary, serving as a bridge between educational materials and complex academic texts.

After mastering the basic terminology, the search efficiency increases dramatically. Instead of simple queries, it becomes possible to build complex combinations using Boolean

operators (AND, OR, NOT). This allows you to narrow down the search area and find exactly the materials that meet the researcher's highly specialized needs.

Of particular importance is the practical application of English to analyze specific production cases. For example, when studying Rio Tinto's experience in implementing an autonomous dump truck system in Western Australia, primary sources and technical documentation are available exclusively in English. The analysis of such materials makes it possible to understand not only the technological aspects, but also the project management techniques used by international corporations [3].

Another practically important aspect is working with patent documentation. The WIPO Patentscope and USPTO databases contain detailed descriptions of technological innovations in mineral processing and metallurgical processes. For example, the HYL/Energiron direct iron reduction technology patents contain detailed technical specifications available only in English. The ability to work with such documentation directly affects the possibility of implementing advanced solutions [4].

Tracking news portals and professional forums is useful for monitoring current industry trends. Resources like Mining Weekly and Mining Technology regularly publish analytical reviews of the metal market, reports on new projects and interviews with leading experts. This information helps to form an up-to-date view of the industry's development on a global scale.

As a result, the English language serves not just as an additional skill, a necessary professional tool for working with global information resources in metallurgy and mining. Its mastery allows specialists to reach the international level, providing access to the latest scientific works, technologies and research. This ultimately contributes to technological development and competitiveness in the industrial sector.

References

1. Mining Engineering and Mineral Resources – Library Guides // Guides.libraries.psu.edu. – URL: https://guides.libraries.psu.edu/miningminresources (date of access: 26.11.2025).

2. A Guide to Mining Equipment & Mining Machines // Mfe-is.com. – URL: https://mfe-is.com/mining-tools/ (date of access: 26.11.2025).

3. Minerals Mining Tools for Beginners // B2bmineral.com. – URL: https://b2bmineral.com/post/minerals-mining-tools-for-beginners (date of access: 27.11.2025).

4. 2025 Mining Terms Explained // An Underground Miner. – URL: https://anundergroundminer.com/blog/mining-terms-explained (date of access: 28.11.2025).